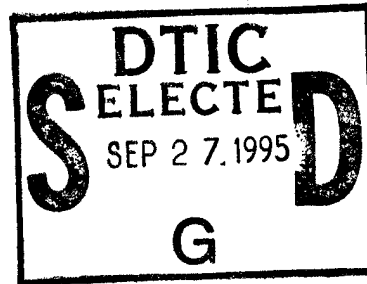AD_____

GRANT NO: DAMD17-94-J-4160

TITLE: TRAINING PROGRAM IN BIOSTATISTICS FOR BREAST CANCER RESEARCH

PRINCIPAL INVESTIGATOR: Dr. Roderick J.A. Little

CONTRACTING ORGANIZATION: UNIVERSITY OF MICHIGAN
                          Ann Arbor, Michigan   48109-1274

REPORT DATE: AUGUST 1, 1995

```
DTIC
SELECTED
SEP 2 7.1995
G
```

TYPE OF REPORT: ANNUAL REPORT

PREPARED FOR: U.S. Army Medical Research and Materiel
                     Command
                  Fort Detrick, Maryland   21702-5012

DISTRIBUTION STATEMENT: Approved for public release;
                          distribution unlimited

19950922 026

REPORT DOCUMENTATION PAGE

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 1 Aug 95	3. REPORT TYPE AND DATES COVERED Annual 11 Jul 94 – 10 Jul 95

4. TITLE AND SUBTITLE
Training Program in Biostatistics for Breast Cancer Research

5. FUNDING NUMBERS
DAMD17-94-J-4160

6. AUTHOR(S)
Dr. Roderick J.A. Little

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
University of Michigan
Ann Arbor, Michigan 48109-1274

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

The purpose of this training program is to provide biostatisticians with the requisite scientific knowledge to understand current issues in breast cancer research, and training in statistical and epidemiological techniques and research methodology related to breast cancer. The training leads to the doctorate of philosophy in biostatistics. The methods of education include formal course-work in biostatistics, epidemiology and biology relating to breast cancer, interdisciplinary seminars on current research and biostatistical topics in breast cancer research, and mentored research in collaboration with biostatistics faculty and breast cancer investigators. This report summarizes activities in the first year of this training grant.

14. SUBJECT TERMS
Biostatistics, Interdisciplinary Research

15. NUMBER OF PAGES
7

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	Unlimited

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to *stay within the lines* to meet *optical scanning requirements*.

Block 1. Agency Use Only (*Leave blank*).

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C	- Contract	PR	- Project
G	- Grant	TA	- Task
PE	- Program Element	WU	- Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. (*If known*)

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."
DOE - See authorities.
NASA - See Handbook NHB 2200.2.
NTIS - Leave blank.

Block 12b. Distribution Code.

DOD - Leave blank.
DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.
NASA - Leave blank.
NTIS - Leave blank.

Block 13. Abstract. Include a brief (*Maximum 200 words*) factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code (*NTIS only*).

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

FOREWORD

Opinions, interpretations, conclusions and recommendations are those of the author and are not necessarily endorsed by the US Army.

_____ Where copyrighted material is quoted, permission has been obtained to use such material.

_____ Where material from documents designated for limited distribution is quoted, permission has been obtained to use the material.

_____ Citations of commercial organizations and trade names in this report do not constitute an official Department of Army endorsement or approval of the products or services of these organizations.

_____ In conducting research using animals, the investigator(s) adhered to the "Guide for the Care and Use of Laboratory Animals," prepared by the Committee on Care and Use of Laboratory Animals of the Institute of Laboratory Resources, National Research Council (NIH Publication No. 86-23, Revised 1985).

_____ For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

_____ In conducting research utilizing recombinant DNA technology, the investigator(s) adhered to current guidelines promulgated by the National Institutes of Health.

_____ In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

_____ In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.

Roderick J Little   July 31, 1995
_____
PI - Signature   Date

TABLE OF CONTENTS

Accesion For		
NTIS CRA&I	☒	
DTIC TAB	☐	
Unannounced	☐	
Justification		
By		
Distribution /		
Availability Codes		
Dist	Avail and / or Special	
A-1		

INTRODUCTION

The purpose of this training program is to provide biostatisticians with the requisite scientific knowledge to understand current issues in breast cancer research, and training in statistical and epidemiological techniques and research methodology related to breast cancer. The training leads to the doctorate of philosophy in biostatistics. The methods of education include formal course-work in biostatistics, epidemiology and biology relating to breast cancer, interdisciplinary seminars on current research and biostatistical topics in breast cancer research, and mentored research in collaboration with biostatistics faculty and breast cancer investigators. This report summarizes activities in the first year of this training grant.

DESCRIPTION OF TRAINEES

The Principle Investigator Dr. Little, with the guidance of the Steering Committee, appointed two highly-qualified trainees for the 1994-95 academic year, namely Mr. Hua-Yun Chen and Mr. Daowen Zhang.

Mr. Zhang is one of the top doctoral students in the Department of Biostatistics. He entered with a BS in Mathematics from South China Normal University, an MS in Applied Mathematics from Peking University, and an MS in Statistics from Southern Illinois University. Prior to his appointment as a Trainee, he was previously funded as a Research Assistant at the Cancer Center. His coursework was excellent, and he had passed the Part 1 Candidacy Examination in May of 1994.

Mr. Zhang has continued to excel in coursework while on the Grant, achieving a cumulative GPA of 8.046 (A = 8). He passed the Part 2 Candidacy Examination in July of 1995 and has advanced to candidacy. Mr. Zhang is planning to do dissertation work with Dr. Mark Becker on methodology for repeated-measures categorical data.

Mr. Chen was an in-coming student in Biostatistics, having previously obtained a BS degreee in Statistics from Peking University and an MS in Biostatistics from Beijing Medical University, where he was actively involved in collaborative projects. Like Zhang, Mr. Chen distinguished himself as one of the top biostatistics students in his coursework this year, achieving a cumulative GPA of 7.96 with a heavy course load. Mr. Chen passed his Part 1 Candidacy exam in June, and was commended for his strong performance.

Both trainees regularly attend breast cancer seminars and grand rounds, and are becoming involved in research involving breast cancer. In particular, Mr. Zhang is working on a survival data analysis for Sophia Merajver, for a breast cancer study involving 90 patients who were treated on a protocol which involved radiation, surgery and chemotherapy. The goal is to identify potential prognostic factors for survival and disease-free survival. Dr. Chen has reviewed Biostatistical issues associated with the research of Dr. Rubineau, and wrote a summary report on the relationship between Breast Cancer Risk and Dietary Fat. He is currently working with Myla

Strawderman and Rod Little on a missing-data problem involving data from a breast cancer clinical trial.

The appointment of these two very strong trainees has provided an excellent start to the grant. At the Steering Committee meeting of July 1995, it was decided to award a traineeship to Ms. Monica Kester, a docotral student who will join the Department in the Fall of 1995. Ms. Kester has a BA in Mathematics from the State University of New York at Geneseo (UGPA = 3.81), and an MS in Statistics from Yale University. With a Strong theoretical background, Ms. Kester expressed a particular interest in applications of Biostatistics to Cancer Research in her application.

TRAINING PERSONNEL

Dr. Judith Bromberg, co-principle investigator and Director of the Biostatistics Core for the University of Michigan Comprehensive Cancer Center, left the University of Michigan in September 1994 to take a position at the Henry Ford Hospital. The Principle Investigator for the grant and Chair of Biostatistics, Roderick Little, assumed the role of Interim Director of the Biostatistics Core, and hence became more centrally positioned for directing the activities of the training grant. Dr. Daniel Normolle, Assistant Research Scientist in the Department of Biostatistics, joined the Biostatistics Core with the departure of Dr. Bromberg and assumed some of her duties. Normolle, with Research Associate Myla Strawderman, have jointly assumed the role of the day-to-day supervision of the trainees.

In the future, the grant will benefit from ambitious plans that are in place to expand the role of the Biostatistics Core in the Cancer Center. When Dr. Little assumed the Interim Directorship of the Biostatistics Core, a national search was authorized for a permanent Core Director, who will hold a tenured senior appointment in the Department of Biostatistics, and devote most of his/her energies to developing the Cancer Center Biostatistics Core. Dr. KyungMann Kim, Associate Professor of Biostatistics in the Harvard School of Public Health and the Dana-Farber Cancer Institute, was selected by the Search Committee and will assume the position in the Fall of 1995. Dr. Kim is a leading researcher in the design and analysis of sequential clinical trials, and he has received FIRST Award funding from the NIH for his work in this area. His research output include publications in the major statistics journals, such as *Biometrics, Biometrika* and the *Journal of the American Statistical Association,* and a range of collaborative publications with Cancer Center researchers. His blend of methodological and collaborative research, and his experience with the Eastern Clinical Oncology Group at the Dana Farber, makes him well qualified to assume the Directorship of the Core. It is expected that Dr. Kim will assume a leadership role in this training grant when he assumes his new position at Michigan.

OTHER ACTIVITIES

Steering Committee. The steering committee has met twice, in November 1994 and July 1995, to review the trainees' progress, evaluate nominees for future traineeships, and consider grant activities. Original members of the Committee, Dr. Bromberg, Dr. Weber and Dr. August have

2

since left to accept positions away from the University of Michigan. Their places on the committee have been replaced by Ms. Strawderman, Dr. Normolle, Dr. Sofia Merajver and Dr. Alfred Chang.

Grant Advertising. In an initiative to advertise the grant, early in 1995 a broad mailing was sent to Statistics and Biostatistics Departments, Cancer Centers and other potential sources of recruits.

CONCLUSIONS

The training grant is off to a promising start, recruiting two excellent trainees who have excelled academically and are becoming involved in Breast Cancer research. In the future, the training grant will play an important role in the further expansion and development of Biostatistical activities, with the recruitment of Dr. Kim as Director of the Biostatistics Core at the Cancer Center.